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BY ECF

Honorable Sandra L. Townes
United States District Court
Eastern District of New York
225 Cadman Plaza East
Brooklyn, New York 11201

Re: *United States v. Ahmed*, et al. 12 CR 661 (S1) (SLT)

Dear Judge Townes:

This letter is written on behalf of defendant Mohamed Yusuf in reply to the Government's opposition to his motion (ecf # 133) to preclude the anticipated testimony of "Jonas Lindh, or another Swedish expert in voice identification" (Government's Expert Witness Notice, dated November 1, 2014), on the ground that it does not meet the reliability requirements and standards of Federal Rule of Evidence 702 and the case law following *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579 (1993).

We made this motion to exclude (pursuant to Federal Rules of Evidence 104(a), 401, 402, 403 and 702) based on the face of Mr. Lindh's report: He noted problems with the quality of the recordings he was asked to analyze and specifically noted that, as a result, the probabilities of "making a strong case" were degraded. In addition, his conclusion ("The possibility of any other conclusion is considered to be small") is vague and unhelpful, and, according to one of his measurements, even this conclusion was only moderately supported.

Alternatively, we requested a "*Daubert* hearing" at which the expert's methodology and analysis can be explored and this court's gatekeeping function under Fed. R. Evid. 104 and 702 can be exercised. In this connection, we advised of the need to retain our own voice identification expert -- to help us to both better evaluate the reliability of the particular analysis proffered by Mr. Lindh (noting that his report includes reference to unfamiliar terms such as "biometric voice analysis," "MFCCs (Mel Frequency Ceptral Coefficients)" and "GMMs (*Gaussian Mixture Models*)"), as well as ascertain whether the techniques that Mr. Lindh used are generally accepted in the scientific community.

Since *Daubert*, no federal appellate court has approved the admission of expert voice identification testimony into evidence. Nevertheless, the Government submits that we have not made a sufficient showing that a *Daubert* hearing is warranted.

The Government contends that the motion to preclude should be denied without a hearing for two reasons (1) because, according to the Government, defendant has a "fundamental misapprehension of the methodology and analysis" used by its expert; and (2) because defendant failed to suggest "that the actual techniques that Mr. Lindh has relied upon are not generally accepted in the scientific community." The Government insists that, before it is obliged to establish the validity and/or reliability of its proffered scientific testimony at a *Daubert* hearing, "the Court should require Yusuf to rearticulate his objection to the proffered testimony of the witness." (Ecf # 153, at 73, 76)

First, we do not have a fundamental misapprehension about the methodology used by Mr. Lindh. The prosecutors apparently believe that, because we cited *United States v. Angleton,* 269 F.Supp.2d 892 (SD Texas 2003), a post-*Daubert* case involving the "aural spectrographic voice identification" technique, we are under the erroneous impression that Mr. Lindh used the spectrographic technique. We know Mr. Lindh used a different methodology (hence our noting the references in his report to the terms "biometric voice analysis," "MFCCs (Mel Frequency Ceptral Coefficients)" and "GMMs (*Gaussian Mixture Models*)").

Mr. Lindh's methodology may be different from the spectrographic method, but the Government has not provided a basis for finding it is any more scientifically valid or reliable. Instead, it describes the methodology and apparently seeks to sway the Court with Mr. Lindh's results. But, as *Daubert* makes plain, "The focus, of course, must be solely on principles and methodology, not on the conclusions that they generate." 509 U.S. at 595.

In its opposition, the Government explains that Mr. Lindh employed a technique involving "three separate methods": (1) a "phonetic and linguistic" "auditive" analysis; (2) "various acoustic analyses"; and (3) a "biometical statistical comparison of voices using an automatic speaker recognition system." According to the Government, each analysis "produced, judged or measured" a "likelihood ratio," the three likelihood ratios were "combined and weighted," and the result was reduced to a "numerical scale established by the Swedish National Laboratory of Forensic Science." (Opp at 74-5)

United States v. Angleton, 269 F.Supp. 2d 892 (SD Texas 2003), the case we cited in which evidence derived from the spectrographic method was precluded, is instructive because the Government's submission suffers the same kind of deficiencies found in *Angleton:* The Government has not shown that the process Mr. Lindh utilized has been tested and subjected to peer review and publication; the Government has not demonstrated a "scientific foundation to support the assumption, critical to [Mr. Lindh's method], that intraspeaker variability can reliably be distinguished from interspeaker variability;" it appears that aspects of Mr. Lindh's method are "subjective, which further diminishes the repeatability and reliability of the results;" the Government has not presented any evidence showing the known or potential error rates, or the existence and maintenance of standards controlling the technique's operation; and the Government has not demonstrated the degree of acceptance of Mr. Lindh's technique by experts in the field. See *Angleton,* 269 F.Supp.2d at 899-902; *Daubert,* 509 U.S. at 594.

Second, it is the Government's burden, as the proponent of the expert testimony, to establish by a preponderance of the evidence that the foundational and admissibility requirements of Rules 104 and 702 are satisfied, see *United States v. Williams,* 506 F.3d 151, 160 (2d Cir. 2007), not the defendant's burden to demonstrate that the techniques used by Mr. Lindh are not generally accepted. Nevertheless, we welcome the opportunity to alert the Court to evidence of substantial professional disagreement about the reliability of Mr. Lindh's methodology. In this regard, we refer the Court to the testimony of Dr. Hirotaka Nakasone, Senior Scientist, FBI Voice Recognition Program, in the widely publicized June 2013 trial of George Zimmerman for the murder of Trayvon Martin. (The testimony can be seen in its entirety at https://www.youtube.com/watch?v=SNDHriX1AHU).

Dr. Nakasone (a man of impeccable credentials, and one of the most senior officials in the Government involved with the study of voice recognition) carefully explained the state of the art of speaker recognition technology, including not only spectrography, which, he said has fallen out of use, but also "phonetic" "aural-perceptual," and "computer algorithm" speaker recognition methodologies (the kinds used in combination by Mr. Lindh), and described the many factors that negatively effect their performance and reliability. In sum, Dr. Nakasone testified that, while newer methodologies (in particular computer analysis in combination with perceptual analysis) are considered more reliable than spectrography, the FBI still does not permit its agents or technicians to testify in court even if both the FBI's computer–algorithm methodology and its human methodology both conclude that a recording is a match for a particular individual. According to Dr. Nakasone, given multiple quality issues (such as intraspeaker variation, technology induced distortions, compression, poor quality of components of limited capability environmental cofounders, duration and phonetic balance) and a lack of standards, "We have a long way to go before the system is ready to be rendered as opinions in the court room." (Dr. Nakasone says this at about the 1:05:35 point.)

The court should take judicial notice of Dr. Nakasone's testimony, and preclude the expert voice identification as not sufficiently reliable under Rule 702. If more information is needed before a ruling on admissibility can be made, a *Daubert* hearing should be scheduled where the Government bears the burden of establishing the admissibility requirements of Rule 702, and where the defendant is given an opportunity to challenge the Government's presentation; the court can then perform its ultimate "gatekeeper" function to insure that only scientifically valid and reliable evidence is admitted at trial.

Respectfully submitted,

_____/s/_____

Jane Simkin Smith, Esq.
David Stern, Esq.

cc: All Counsel via ECF

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